

# PATENT ABSTRACTS OF JAPAN

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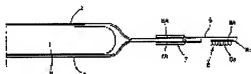
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## (54) PAPER DIAPER HAVING SURFACE FASTENER

### (57)Abstract:

PROBLEM TO BE SOLVED: To strongly fix a surface fastener tape to a paper diaper for achieving temporary stoppage in a product condition.

SOLUTION: In the both side parts of the paper diaper, a main tape member 6 is fixed to the surface of a back sheet 2 to protrude outward from the side edge, a subsidiary tape member 7 is provided between the surface of a top sheet and the inner surface side of the main tape member over its side edge with both ends fixed, and a hook element 8 of a surface fastener is fixed to an inner surface side part of the main tape member 6 where the subsidiary tape member does not exist, so the hook element 8 is detachably engaged with a hook receiving element of the surface fastener provided on the abdomen side when the paper diaper is set, and that the main tape member 6 is freely releasably engaged with the top sheet 1 at a position partly or wholly over the subsidiary tape member 7 as the product is folded inward.



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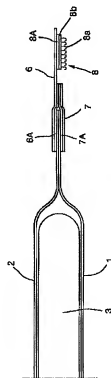
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(54) 【発明の名称】 面ファスナーを有する紙おむつ

(57) 【要約】

【課題】面ファスナーテープを紙おむつに対して強固に固定する。製品状態における仮止めを図る。

【解決手段】紙おむつの両側部において、バックシート2の表面にその側縁から外方に張り出して主テープ部材6を固定し、かつ、トップシートの表面とその側縁を跨いだ主テープ部材の内面側との間に副テープ部材7を両端固定状態で設け、主テープ部材6の副テープ部材7が存在しない内面側部分に、面ファスナーのフック要素8を固定し、このフック要素8は、紙おむつの装着時において腹側に設けた面ファスナーのフック受け要素5と係脱自在の関係にあり、未装着時における主テープ部材6を製品の内側に折り畳んだ状態において、副テープ部材7の一部または全体を越える位置においてトップシート1に剥離自在に係合している。



## 【特許請求の範囲】

【請求項1】紙おむつ背面の両側部に設けた面ファスナーのフック要素と、腹側に設けた面ファスナーのフック受け要素とにより、着用者への装着時の固定手段としてある紙おむつにおいて、

前記両側部は裏面構成シートと表面構成シートとにより構成され、前記裏面構成シートおよび表面構成シートのうちの一方の構成シート表面にあるいは前記裏面構成シートと表面構成シートとの間に、その側縁から外方に張り出して主テープ部材を固定し、かつ、他方の構成シートの表面とその側縁を跨いだ前記主テープ部材の内面側との間に副テープ部材を両端固定状態で設け、

前記主テープ部材の内面側部分に、前記面ファスナーのフック要素を固定し、

このフック要素は、紙おむつの装着時において前記腹側に設けた面ファスナーのフック受け要素と係脱自在の関係にあり、未装着時における前記主テープ部材を製品の内側に折り畳んだ状態において、前記副テープ部材の一部または全体を越える位置において紙おむつの表面シートに剥離自在に係合している、

ことを特徴とする面ファスナーを有する紙おむつ、

【請求項2】紙おむつ背面の両側部に設けた面ファスナーのフック要素と、腹側に設けた面ファスナーのフック受け要素とにより、着用者への装着時の固定手段としてある紙おむつにおいて、

前記両側部は裏面構成シートと表面構成シートとにより構成され、前記裏面構成シートの表面にあるいは前記裏面構成シートと表面構成シートとの間に、その側縁から外方に張り出して主テープ部材を固定し、かつ、前記表面構成シートの表面とその側縁を跨いで前記主テープ部材の内面側との間に副テープ部材を両端固定状態で設け、

前記主テープ部材の副テープ部材が存在しない内面側部分に、前記面ファスナーのフック要素を固定し、

このフック要素は、紙おむつの装着時において前記腹側に設けた面ファスナーのフック受け要素と係脱自在の関係にあり、未装着時における前記主テープ部材を製品の内側に折り畳んだ状態において、前記副テープ部材の一部または全体を越える位置において紙おむつの表面シートに剥離自在に係合している、

ことを特徴とする面ファスナーを有する紙おむつ、

【請求項3】前記紙おむつは、両側部に長手方向に延び、内側部分に長手方向に伸縮させる弾性伸縮部材を有し、使用時において紙おむつ表面から起立するバリアーカフを有し、このバリアーカフを構成するバリアーシートが前記表面シートとして存在し、このバリアーシートに前記フック要素が剥離自在に係合している請求項1または2記載の面ファスナーを有する紙おむつ、

## 【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、フック要素とフック受要素との係合を行う着脱自在の面ファスナー（通常ベルクロファスナー（登録商標）またはマジックテープ（登録商標）と呼ばれる）を用いて装着するようにした紙おむつに関する。

【0002】

【従来の技術】一般に、紙おむつを被着用者に装着する場合のテープファスナーとしては、粘着剤を用いたものが主流をなしている。おむつかバーにおいては、前述の面ファスナーにて結合するようにしている。この面ファスナーを用いる場合、何回もの着脱が可能であり便利である。

【0003】これに対して、粘着剤を有するテープファスナーにおいても、排尿の有無の確認のために、紙おむつの腹部に対して着脱可能にするために、いわゆる3層テープが開発された経緯がある。

【0004】ところが、3層テープを用いる場合、その使用法を熟知しない、着用者が剥すべきテープを誤まることが多いほか、粘着剤層間の接着力のバランスを保つことが難しい欠点がある。

【0005】そこで、紙おむつの腹側のバックシート表面に大きい面積をもって、粘着剤を有するテープファスナーが剥離自在に止着されるフロントシートを固定し、このフロントシートに対してテープファスナーを止着し、取付位置を調整し直すことが可能とする構造のものが汎用されている。

【0006】

【発明が解決しようとする課題】フロントシートに対して粘着剤を有するテープファスナーを止着するようにした構造のものは、テープファスナーの取付位置が調整可能である利点があるものの、着用後一旦剥がし、排尿の有無を確認した後、再度、フロントシートに固定する場合、粘着剤の止着強度が低下する。さらに、元来、粘着剤による接着強度に頼るために、たとえば大きい面積を有する成人用の紙おむつにおいては強度不足となり、剥がれが生じやすい。

【0007】この点、面ファスナーを用いると大きい係合強度が得られ、かつ、着脱を繰り返しても係合強度の低下がない。

【0008】したがって、本発明の課題は、面ファスナーテープを紙おむつに対して強固に固定するとともに、製品状態において、面ファスナーテープを容易に仮止めしておく構造を得ることにある。

【0009】

【課題を解決するための手段】上記課題を解決した請求項1記載の発明は、紙おむつ背面の両側部に設けた面ファスナーのフック要素と、腹側に設けた面ファスナーのフック受け要素とにより、着用者への装着時の固定手段としてある紙おむつにおいて、前記両側部は裏面構成シートと表面構成シートとにより構成され、前記裏面構成

シートおよび表面構成シートのうちの一方の構成シート表面にあるいは前記裏面構成シートと表面構成シートとの間に、その側縁から外方に張り出して主テープ部材を固定し、かつ、他方の構成シートの表面とその側縁を跨いだ前記主テープ部材の内面側との間に副テープ部材を両端固定状態で設け、前記主テープ部材の内面側部分に、前記面ファスナーのフック要素を固定し、このフック要素は、紙おむつの装着時において前記腹側に設けた面ファスナーのフック受け要素と係脱自在の関係にあり、未装着時における前記主テープ部材を製品の内部に折り畳んだ状態において、前記副テープ部材の一部または全体を越える位置において紙おむつの表面シートに剥離自在に係合していることを特徴とする面ファスナーを有する紙おむつである。

【0010】請求項2記載の発明は、紙おむつ背側の両側部に設けた面ファスナーのフック要素と、腹側に設けた面ファスナーのフック受け要素とにより、着用者への装着時の固定手段としてある紙おむつにおいて、前記両側部は裏面構成シートと表面構成シートとにより構成され、前記裏面構成シートの表面にあるいは前記裏面構成シートと表面構成シートとの間に、その側縁から外方に張り出して主テープ部材を固定し、かつ、前記表面構成シートの表面とその側縁を跨いで前記主テープ部材の内面側との間に副テープ部材を両端固定状態で設け、前記主テープ部材の副テープ部材が存在しない内面側部分に、前記面ファスナーのフック要素を固定し、このフック要素は、紙おむつの装着時において前記腹側に設けた面ファスナーのフック受け要素と係脱自在の関係にあり、未装着時における前記主テープ部材を製品の内部に折り畳んだ状態において、前記副テープ部材の一部または全体を越える位置において紙おむつの表面シートに剥離自在に係合していることを特徴とする面ファスナーを有する紙おむつである。

【0011】請求項3記載の発明は、前記紙おむつは、両側部に長手方向に延び、内側部分に長手方向に伸縮させる弾性伸縮部材を有し、使用時において紙おむつ表面から起立するバリアーカフを有し、このバリアーカフを構成するバリアーシートが前記表面シートとして存在し、このバリアーシートに前記フック要素が剥離自在に係合している請求項1または2記載の面ファスナーを有する紙おむつである。

【0012】ここで、構成がより具体化された請求項2記載の発明をもつて説明すると、裏面構成の表面にその側縁から外方に張り出して主テープ部材を固定し、かつ、表面構成シートの表面とその側縁を跨いだ主テープ部材の内面側との間に副テープ部材を両端固定状態で設け、主テープ部材の副テープ部材が存在しない内面側部分に、前記面ファスナーのフック要素を固定してあるので、フック要素を腹側に設けた面ファスナーのフック受け要素に対して係合する際に主テープ部材に作用する引

張力は、主テープ部材の基部および副テープ部材の基部に作用し、これらがそれぞれ裏面構成シートおよび表面構成シートの対応部分およびその周辺に分散して作用するので、結果として、主テープ部材および副テープ部材は紙おむつの側部において強固にかつ剥がれを生じることなく固定される。

【0013】なお、フック要素を含む主テープ部材、および副テープ部材の、紙おむつの側縁から外方に張り出す部分を、以下において「延在部分」ともいう。

【0014】他方、未装着時における前記主テープ部材を製品の内部に折り畳んだ状態において、前記副テープ部材の一部または全体を越える位置において表面シート（前記裏面構成シートであるほか、請求項3または後述するバリアーシートであってもよい）に、通常、不織布からなる表面シートとその表面が繊維質である性質を利用して剥離自在に係合しているものであるから、別途、フック要素を含む主テープ部材を紙おむつの側縁から張り出したままにしておくことなく、「延在部分」を製品の内部に折り畳んだ状態で製品として供することができる。

【0015】さらに、従来の粘着剤を有するテープファスナーと同様な消費者が馴れ慣れた使用形態、すなわち、一旦、「延在部分」を製品の内部から剥離し外方に展開した後に、紙おむつの腹側に持ち込んで止着する使用形態をもって、違和感なく装着作業を行うことができる利点もある。

【0016】本発明にいう「フック要素」および「フック受要素」とは、フックが逆J字になつていくなくとも、キノコ状等であってもよいし、またフック受がループ状でなくとも逆J字などの形状をなし、フックとからみ合うものであればよい。要は、接着剤等のように、化学的結合を除き、かつからみ合いにより機械的に着脱（剥離）自在となっているもの（一般に面ファスナーと呼ばれるもの）であればよい。

【0017】

【発明の実施の形態】以下本発明を図面に示す実施の形態を参照しながらさらに詳説する。

【0018】（第1の実施例）第1図〜第4図は第1実施例を示したもので、紙おむつ本体は、表面（図に当る面）側の不織布等からなる透液性トップシート1と、裏面のポリエチレンシート等からなる不透液性バックシート2と、周囲部分をフラップ部として残してそれらの間に介在された綿状パルプ等からなる吸収体3とを基本構成要素としている。吸収体3に隣接して脚回り部分に1本または複数本の弾性伸縮部材4Aが必要により設けられている。前後端には、必要により前後漏れ防止用弾性伸縮部材4Bが設けられる。

【0019】この種の紙おむつ本体は公知のものであるが、本発明では腹部Sの外面に多数のループ5aが基材5bに突出する。本発明のフック受け要素を構成するフ

ック受けシート（からみ受シート）5が、不透液性シート2に接着剤、もしくは縫合等により固定されている。

【0020】他方、第1の実施例においては、背中Bが両側部は、バックシート2とトップシート1とにより構成されており、それぞれ本発明の裏面構成シートおよび表面構成シートを構成している。バックシート2の表面にその側縁から外方に張り出して主テープ部材6が、たとえば粘着剤層6Aにより固定され、トップシート1の表面とその側縁を跨いだ主テープ部材6の内面側との間に副テープ部材7が、たとえば両端が粘着剤層7Aにより固定状態で設けられている。

【0021】前記主テープ部材6の副テープ部材7が存在しない内面側部分に、面ファスナーのフック要素を構成するフックシート8がたとえば粘着剤層8Aにより固定されている。フックシート8は、多数のフック片8aを基材8bに植設したものであり、フック片8aは前記ループ5aと係脱自在の関係にある。また、フックシート8は、好ましくは、主テープ部材6の先端から内側に設けることにより、先端部を握り部として残してある。

【0022】他方、図4に示されているように、未装着時においては主テープ部材6を、製品の内側に折り畳んだ状態とされ、その際に、フックシート8は、副テープ部材7の一部、あるいは図5に示されるように、副テープ部材7全体を越える位置において不織布からなるトップシート1の繊維に剥離自在に絡んだ状態で係合している。

【0023】かかる紙おむつにおいては、フックシート8を有する主テープ部材6、および副テープ部材7が紙おむつ本体に取付けられた後、図4に示すように、主テープ部材6を、紙おむつの内側に折り畳んだ状態とし、フックシート8を、副テープ部材7の一部を越える位置において、不織布からなるトップシート1の繊維に絡ませて係合しておき、製造工程をさらに進め、荷作り後、出荷する。

【0024】紙おむつの装着時には、主テープ部材6の先端を握み、トップシート1からフックシート8を剥離し、その延在部分を腹側Sに持ち込み、フックシート8をフック受けシート5上に重ねる。この重ね合わせによって、各フック片8aが各ループ5aに絡み、紙おむつ前後の結合がなされる。

【0025】排尿の有無の確認や装着のやり直しに際しては、フックシート8の延在部をフック受けシート5から剥して、再結合すればよい。

【0026】（第2の実施例）第1の実施例においては、バリヤーカフスを有しない紙おむつであるが、図6および図7に示すように、紙おむつの両側にバリヤーカフス10、10を設けることができる。バリヤーカフス10は、たとえば不織布からなるバリヤーシート11をトップシート1Aと連結し、その内側部に長手方向に延在する弾性伸縮部材12を設け、使用時において弾性伸

縮部材12の伸縮力によりその内側部を起立させるようにしたものである。

【0027】前記フックシート8のフック片8aをバリヤーシート11に剥離自在に係合させるようにしてある。

【0028】図8に示すように、バリヤーシート11はトップシート1に重合させることもできる。

【0029】（第3の実施例）図9は第3の実施例を示したものであり、第1の実施例および第2の実施例が裏面構成シートの表面にその側縁から外方に張り出して主テープ部材6を固定し、かつ、前記表面構成シートの表面とその側縁を跨いで前記主テープ部材6の内面側との間に副テープ部材7を両端固定状態で設けてあるのに対して、第2の実施例との対比で、反対に表面構成シートの表面にその側縁から外方に張り出して主テープ部材6を固定し、かつ、前記裏面構成シートの表面とその側縁を跨いで前記主テープ部材6の内面側との間に副テープ部材7を両端固定状態で設けるものである。また、この例においては、第1の実施例および第2の実施例のように、主テープ部材6の副テープ部材7が存在しない内面側部分に、面ファスナーのフック要素（フックシート8）を固定する要件を備えることを必須としない。この第3態様は、第1の実施例に対しても適用できることは明らかであろう。

【0030】他方、図9の仮想線で示すように、副テープ部材7は主テープ部材6の端部まで延在しているもよい。この場合には、主テープ部材6と副テープ部材7との区別はなくなるものの、本発明の請求項1記載の発明の範囲内である。

【0031】（第4の実施例）図10は第4の実施例を示したものである。第1の実施例および第2の実施例では前記主テープ部材6を裏面構成シートの表面に固定し、第3の実施例では前記主テープ部材6を表面構成シートの表面に固定してあるが、前記主テープ部材6は図10に示されるように、裏面構成シートと表面構成シートとの間で挟むようにして固定することもできる。この固定態様を探る場合には、前記副テープ部材7は裏面構成シートまたは表面構成シートのどちらに固定してもよい。

【0032】（その他の例）上記実施例においては、フックシート8を粘着剤8Aにて主テープ部材6に対して固定したが、粘着剤層8Aによることなくフックシート8の基材8bを主テープ部材6に熱溶着などにより固定することもできる。

【0033】フックシート8は、主テープ部材6の長手方向に沿って間隔を置いて複数設けることもできる。図1および図2に示されているように、フックシート8を有する主テープ部材6および副テープ部材7のファスナーテープは、紙おむつの一方の両側部に対して2つ設けたが、接合強度に応じて（あるいは幼児用などの用途に

応じて1つまたは3以上とすることができる。

【0034】

【発明の効果】以上の通り、本発明によれば、面ファスナーを紙おむつに対して強固に固定することができるとともに、製品状態において、ファスナーテープの延在部分を容易に仮止めしておくことができる。

【図面の簡単な説明】

【図1】紙おむつの装着状態斜視図である。

【図2】製品の展開図である。

【図3】ファスナーテープを剥がした状態の要部横断面図である。

【図4】ファスナーテープを仮止めした状態の要部横断面図である。

【図5】他の例のファスナーテープを剥がした状態の要

部横断面図である。

【図6】第2の実施例における製品の展開図である。

【図7】第2の実施例におけるファスナーテープを仮止めした状態の要部横断面図である。

【図8】第2の実施例の変形例におけるファスナーテープを仮止めした状態の要部横断面図である。

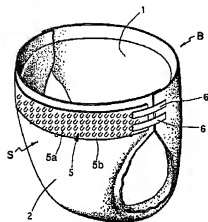
【図9】第3の実施例におけるファスナーテープを剥がした状態の要部横断面図である。

【図10】第4の実施例におけるファスナーテープを剥がした状態の要部横断面図である。

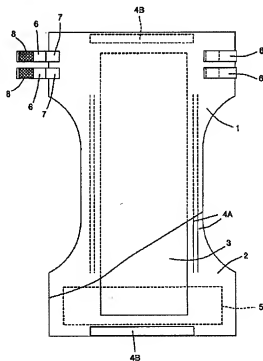
【符号の説明】

1…トップシート、2…バックシート、3…吸収体、5…フック受けシート、6…主テープ部材、7…副テープ部材、8…フックシート。

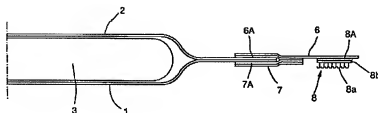
【図1】



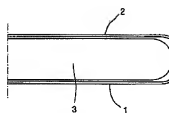
【図2】



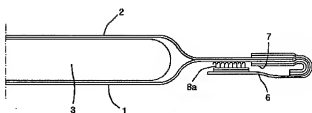
【図3】



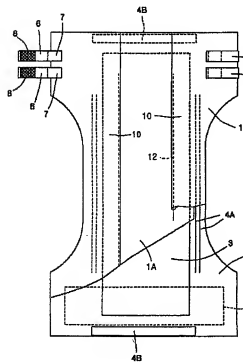
【図4】



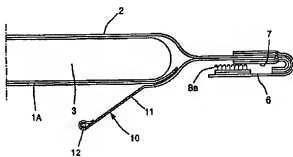
【図5】



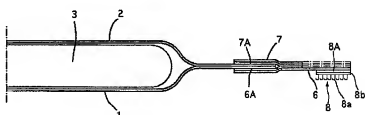
【図6】



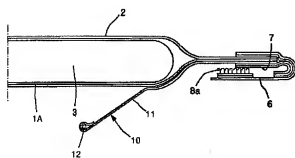
【図7】



【図9】

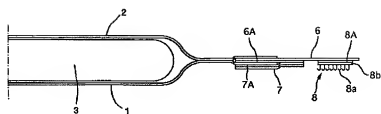


【図8】





【図10】



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CLAIMS

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## [Claim(s)]

[Claim 1] With the hook element of the surface fastener formed in the both-sides section of a disposable diaper backside, and the hook receptacle element of the surface fastener formed in the venter Said both-sides section is constituted by a rear-face configuration sheet and the surface configuration sheet in the disposable diaper made into the fixed means at the time of wearing to a wearer. On one configuration sheet front face of said rear-face configuration sheet and the surface configuration sheets, or between said rear-face configuration sheet and a surface configuration sheet Jut out of the side edge over the method of outside, and fix the main tape member, and a subtape member is prepared in the state of both-ends immobilization between the front-face side of the configuration sheet of another side, and the inside side of said main tape member over the side edge. The hook element of said surface fastener is fixed to a part for the inside flank of said main tape member. This hook element In the condition of having the relation in which the hook receptacle element of the surface fastener formed in said venter at the time of wearing of a disposable diaper and engaging and releasing are free, and having folded up said main tape member at the time of un-equipping inside the product The disposable diaper which has the surface fastener characterized by what is being engaged with the surface sheet of a disposable diaper free [ exfoliation ] in the location exceeding a part or the whole of said subtape member.

[Claim 2] With the hook element of the surface fastener formed in the both-sides section of a disposable diaper backside, and the hook receptacle element of the surface fastener formed in the venter Said both-sides section is constituted by a rear-face configuration sheet and the surface configuration sheet in the disposable diaper made into the fixed means at the time of wearing to a wearer. On the front face of said rear-face configuration sheet or between said rear-face configuration sheet and a surface configuration sheet Jut out of the side edge over the method of outside, and fix the main tape member, and a subtape member is prepared in the state of both-ends immobilization between the inside sides of said main tape member ranging over the front face and side edge of said surface configuration sheet. The hook element of said surface fastener is fixed to a part for the inside flank in which the subtape member of said main tape member does not exist. This hook element In the condition of having the relation in which the hook receptacle element of the surface fastener formed in said venter at the time of wearing of a disposable diaper and engaging and releasing are free, and having folded up said main tape member at the time of un-equipping inside the product The disposable diaper which has the surface fastener characterized by what is being engaged with the surface sheet of a disposable diaper free [ exfoliation ] in the location exceeding a part or the whole of said subtape member.

[Claim 3] Said disposable diaper is a disposable diaper which is prolonged in the both-sides section at a longitudinal direction, has the elastic flexible member which an inside part is made to expand and contract in a longitudinal direction, has the barrier cuffs which stand up from a disposable diaper front face at the time of use, and has the surface fastener according to claim 1 or 2 with which the barrier sheet which constitutes these barrier cuffs exists as said surface sheet, and is engaging with this barrier sheet free [ exfoliation of said hook element ].

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[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the disposable diaper with which it equipped using the surface fastener (usually called the Velcro fastener (trademark) or a piece of Velcro (trademark)) which can be detached and attached, and which performs engagement to a hook element and a hook carrier element.

[0002]

[Description of the Prior Art] Generally, the thing using the binder as a tape fastener in the case of equipping the person for covering with a disposable diaper is making the mainstream. He is trying to join together with the above-mentioned surface fastener in a diaper cover. When using this surface fastener, many times attachment and detachment are possible, and it is convenient.

[0003] On the other hand, also in the tape fastener which has a binder, in order to make it removable to the abdomen of a disposable diaper for the check of the existence of urination, there are circumstances by which the so-called three-layer tape was developed.

[0004] however, the tape which a wearer should remove if it does not have full knowledge of the usage when using a three-layer tape -- incorrect \*\*\*\* -- there are many things and also there is a fault with it difficult [ to maintain the balance of the adhesive strength between binder layers ].

[0005] Then, it has a large area in the backseat front face of the venter of a disposable diaper, the front seat attached firmly free [ exfoliation of the tape fastener which has a binder ] is fixed, a tape fastener is attached firmly to this front seat, and the thing of the structure made possible [ readjusting an attaching position ] is used widely.

[0006]

[Problem(s) to be Solved by the Invention] Although the thing of the structure which attached firmly the tape fastener which has a binder to a front seat has the advantage which can adjust the attaching position of a tape fastener, after once removing after wear and checking the existence of urination, when it fixes to a front seat, the firm attachment reinforcement of a binder falls again. Furthermore, originally, in order to depend on the bond strength by the binder, in the disposable diaper for the adult who has a large area, it becomes insufficient [ reinforcement ], and is easy to produce peeling.

[0007] If this point and a surface fastener are used, even if large engagement reinforcement will be obtained and it will repeat attachment and detachment, there is no fall of engagement reinforcement.

[0008] Therefore, the technical problem of this invention is in a product condition to acquire the structure which carries out [ tacking ] of the field zipper tape easily while fixing a field zipper tape firmly to a disposable diaper.

[0009]

[Means for Solving the Problem] Invention according to claim 1 which solved the above-mentioned technical problem with the hook element of the surface fastener formed in the both-sides section of a disposable diaper backside, and the hook receptacle element of the surface fastener formed in the venter Said both-sides section is constituted by a rear-face configuration sheet and the surface configuration

sheet in the disposable diaper made into the fixed means at the time of wearing to a wearer. On one configuration sheet front face of said rear-face configuration sheet and the surface configuration sheets, or between said rear-face configuration sheet and a surface configuration sheet Jut out of the side edge over the method of outside, and fix the main tape member, and a subtape member is prepared in the state of both-ends immobilization between the front-face side of the configuration sheet of another side, and the inside side of said main tape member over the side edge. The hook element of said surface fastener is fixed to a part for the inside flank of said main tape member. This hook element In the condition of having the relation in which the hook receptacle element of the surface fastener formed in said venter at the time of wearing of a disposable diaper and engaging and releasing are free, and having folded up said main tape member at the time of un-equipping inside the product It is the disposable diaper which has the surface fastener characterized by what is being engaged with the surface sheet of a disposable diaper free [ exfoliation ] in the location exceeding a part or the whole of said subtape member.

[0010] Invention according to claim 2 with the hook element of the surface fastener formed in the both-sides section of a disposable diaper backside, and the hook receptacle element of the surface fastener formed in the venter Said both-sides section is constituted by a rear-face configuration sheet and the surface configuration sheet in the disposable diaper made into the fixed means at the time of wearing to a wearer. On the front face of said rear-face configuration sheet or between said rear-face configuration sheet and a surface configuration sheet Jut out of the side edge over the method of outside, and fix the main tape member, and a subtape member is prepared in the state of both-ends immobilization between the inside sides of said main tape member ranging over the front face and side edge of said surface configuration sheet. The hook element of said surface fastener is fixed to a part for the inside flank in which the subtape member of said main tape member does not exist. This hook element In the condition of having the relation in which the hook receptacle element of the surface fastener formed in said venter at the time of wearing of a disposable diaper and engaging and releasing are free, and having folded up said main tape member at the time of un-equipping inside the product It is the disposable diaper which has the surface fastener characterized by what is being engaged with the surface sheet of a disposable diaper free [ exfoliation ] in the location exceeding a part or the whole of said subtape member.

[0011] It is the disposable diaper which has the surface fastener according to claim 1 or 2 which the barrier sheet which has the barrier cuffs which has an elastic [ said disposable diaper is prolonged in the both-sides section by invention according to claim 3 at a longitudinal direction, and an inside part is made to expand and contract in a longitudinal direction ] flexible member, and stands up from a disposable diaper front face at the time of use, and constitutes these barrier cuffs exists as said surface sheet, and is being engaged free [ exfoliation of said hook element ] to this barrier sheet.

[0012] If a configuration explains with invention according to claim 2 materialized more here Jut over the front face of a rear-face configuration out of the side edge at the method of outside, and the main tape member is fixed. And a subtape member is prepared in the state of both-ends immobilization between the front-face side of a surface configuration sheet, and the inside side of the main tape member over the side edge. Since the hook element of said surface fastener is fixed to a part for the inside flank in which the subtape member of the main tape member does not exist The tensile force which acts on the main tape member in case it is engaged to the hook receptacle element of the surface fastener which prepared the hook element in the venter Since it acts on the base of the main tape member, and the base of a subtape member and these distribute and act on the corresponding point of a rear-face configuration sheet and a surface configuration sheet, and the outskirts of it, respectively As a result, the main tape member and a subtape member are fixed, without producing peeling firmly in the flank of a disposable diaper.

[0013] In addition, the part jutted out over the method of outside is said to below also as an "extension part" from the side edge of a disposable diaper of the main tape member containing a hook element, and a subtape member.

[0014] On the other hand, said main tape member at the time of un-equipping is set in the condition of having folded up inside the product. It sets in the location exceeding a part or the whole of said subtape member, and is a surface sheet (it is said rear-face configuration sheet, and also). claim 3 or the barrier

sheet mentioned later -- you may be -- usually Since it is engaging with the surface sheet which consists of a nonwoven fabric free [ exfoliation ] using the property in which the front face is a fiber Without keeping the main tape member containing a hook element \*\*\*\*\*d from the side edge of a disposable diaper separately, where an "extension part" is folded up inside a product, it can offer as a product, and it excels in the appearance of a product.

[0015] furthermore, the same consumer as the tape fastener which has the conventional binder is becoming tame, and it is \*\*\*\* -- it once has the use gestalt which carries in and attaches an "extension part" firmly to the venter of a disposable diaper gestalt [ use ], i.e., after exfoliating from the inside of a product and developing to the method of outside, and there is also an advantage which can perform wearing without sense of incongruity.

[0016] even if, as for the "hook element" and the "hook carrier element" which are said to this invention, the hook is not a reverse RE character -- the shape of a mushroom etc. -- you may be -- moreover, a hook carrier -- the shape of a loop formation -- it is not -- for example, -- reverse -- what is necessary is just to become entangled with nothing and a hook about configurations, such as J etc. characters What is necessary is to be able to detach [ just / in short, ] like adhesives and attach freely mechanically by tangle, removing chemical association (what is generally called a surface fastener). (exfoliation)

[0017]

[Embodiment of the Invention] It explains in full detail further, referring to the gestalt of the operation which shows this invention below to a drawing.

[0018] (The 1st example) Figs. 1 - 4 are what showed the 1st example, and the body of a disposable diaper is using as the basic component the liquid permeability top sheet 1 which consists of a nonwoven fabric by the side of a front face (field equivalent to the skin) etc., the non-liquid-permeable nature backseat 2 which consists of a polyethylene sheet on the back etc., and the absorber 3 which consists of curdy pulp which left the perimeter part as the flap section and intervened among them. An absorber 3 is adjoined and 1 or two or more elastic flexible member 4A is prepared in the circumference part of a foot as occasion demands. Elastic flexible member 4B for order leakage prevention is prepared in an order edge as occasion demands.

[0019] Although this kind of body of a disposable diaper is well-known, in this invention, the hook receptacle sheet (slag carrier sheet) 5 with which much loop-formation 5a projects on the external surface of Abdomen S at base material 5b and which constitutes the hook receptacle element of this invention is being fixed to the non-liquid-permeable nature sheet 2 by adhesives or suture.

[0020] On the other hand, in the 1st example, Back B is constituted by the backseat 2 and the top sheet 1, and \*\*\*\*\* constitutes the rear-face configuration sheet and surface configuration sheet of this invention, respectively. It juts over the front face of a backseat 2 out of the side edge at the method of outside, and binder layer 6A is fixed and the subtape member 7 is formed [ the main tape member 6 ] for both ends by binder layer 7A in the state of immobilization between the front-face side of the top sheet 1, and the inside side of the main tape member 6 over the side edge.

[0021] The hook sheet 8 which constitutes the hook element of a surface fastener is being fixed to a part for the inside flank in which the subtape member 7 of said main tape member 6 does not exist by for example, binder layer 8A. The hook sheet 8 implants much piece of hook 8a in base material 8b, and piece of hook 8a has the relation in which said loop-formation 5a and engaging and releasing are free. Moreover, preferably, by preparing inside from the tip of the main tape member 6, the hook sheet 8 pinches a point and has left it as the section.

[0022] On the other hand, it consider as the condition of having fold up the main tape member 6 inside the product at the time of un-equip, and be engage with the fiber of the top sheet 1 as for which the hook sheet 8 consist of a nonwoven fabric in the location exceeding the subtape member 7 whole in that case as be show at a part of subtape member 7 or drawing 5 in the condition of having been involved free [ exfoliation ] as show in drawing 4.

[0023] After the main tape member 6 which has the hook sheet 8, and the subtape member 7 are attached in the body of a disposable diaper in this disposable diaper, as shown in drawing 4 The main tape member 6 is made into the condition of having folded up inside the disposable diaper, the hook

sheet 8 is twined around the fiber of the top sheet 1 which consists of a nonwoven fabric in the location exceeding a part of subtape member 7, and it is engaged, and a production process is advanced further and shipped after making a load.

[0024] At the time of wearing of a disposable diaper, the tip of the main tape member 6 is gathered, the hook sheet 8 is exfoliated from the top sheet 1, the extension part is carried into Venter S, and the hook sheet 8 is piled up on the hook receptacle sheet 5. Association before and behind a disposable diaper is made for each piece of hook 8a by this superposition involving each loop-formation 5a.

[0025] What is necessary is to remove the extension section of the hook sheet 8 from the hook receptacle sheet 5, and just to recombine it on the occasion of the check of the existence of urination, or redo of wearing.

[0026] (The 2nd example) In the 1st example, although it is the disposable diaper which does not have barrier cuffs, as shown in drawing 6 and drawing 7, the barrier cuffs 10 and 10 can be formed in the both sides of a disposable diaper. The barrier cuffs 10 form the elastic flexible member 12 which connects with top sheet 1A the barrier sheet 11 which consists of a nonwoven fabric, among those extends in a flank at a longitudinal direction, and it is made to make the inside section stand up according to the flexible force of the elastic flexible member 12 at the time of use.

[0027] It is made to make piece of hook 8a of said hook sheet 8 have engaged with the barrier sheet 11 free [ exfoliation ].

[0028] As shown in drawing 8, the polymerization of the barrier sheet 11 can be carried out to the top sheet 1.

[0029] Drawing 9 shows the 3rd example, and the 1st example and 2nd example jut it over the front face of a rear-face configuration sheet out of the side edge at the method of outside, and it fixes the main tape member 6. (The 3rd example) As opposed to having formed the subtape member 7 in the state of both-ends immobilization between the inside sides of said main tape member 6 ranging over the front face and side edge of said surface configuration sheet and by contrast with the 2nd example It juts over the front face of a surface configuration sheet out of the side edge on the contrary at the method of outside, and the main tape member 6 is fixed, and the subtape member 7 is formed in the state of both-ends immobilization between the inside sides of said main tape member 6 ranging over the front face and side edge of said rear-face configuration sheet. Moreover, in this example, it does not make it indispensable to have the requirements which fix the hook element (hook sheet 8) of a surface fastener to a part for the inside flank in which the subtape member 7 of the main tape member 6 does not exist like the 1st example and the 2nd example. Probably, this 3rd mode applicable also to the 1st example will be clear.

[0030] On the other hand, as the imaginary line of drawing 9 shows, the subtape member 7 may extend to the edge of the main tape member 6. In this case, the distinction with the main tape member 6 and the subtape member 7 is within the limits of invention of this invention of what is lost according to claim 1.

[0031] (The 4th example) Drawing 10 shows the 4th example. Although said main tape member 6 is fixed to the front face of a rear-face configuration sheet in the 1st example and 2nd example and said main tape member 6 is fixed to the front face of a surface configuration sheet in the 3rd example, said main tape member 6 can also be fixed between a rear-face configuration sheet and a surface configuration sheet, as it inserts, as shown in drawing 10. When taking this fixed mode, said subtape member 7 may be fixed to whichever of a rear-face configuration sheet or a surface configuration sheet.

[0032] (Other examples) In the above-mentioned example, although the hook sheet 8 was fixed to the main tape member 6 in binder 8A, base material 8b of the hook sheet 8 can also be fixed to the main tape member 6 by heat joining etc., without being based on binder layer 8A.

[0033] The hook sheet 8 can keep spacing along with the longitudinal direction of the main tape member 6, and can also prepare it. [ two or more ] although two zipper tapes of the main tape member 6 which has the hook sheet 8, and the subtape member 7 were prepared to one both-sides section of a disposable diaper, they can be made into one (or the applications for small children etc. -- responding), or 3 or more according to bonding strength, as shown in drawing 1 and drawing 2.

[0034]

[Effect of the Invention] Although a surface fastener is firmly fixed to a disposable diaper, while being

able to do according to this invention the above passage, in a product condition, it can tacking carry out of the extension part of a zipper tape easily.

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[Translation done.]



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TECHNICAL FIELD

[Field of the Invention] This invention relates to the disposable diaper with which it equipped using the surface fastener (usually called the Velcro fastener (trademark) or a piece of Velcro (trademark)) which can be detached and attached, and which performs engagement to a hook element and a hook carrier element.

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PRIOR ART

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[Description of the Prior Art] Generally, the thing using the binder as a tape fastener in the case of equipping the person for covering with a disposable diaper is making the mainstream. He is trying to join together with the above-mentioned surface fastener in a diaper cover. When using this surface fastener, many times attachment and detachment are possible, and it is convenient.

[0003] On the other hand, also in the tape fastener which has a binder, in order to make it removable to the abdomen of a disposable diaper for the check of the existence of urination, there are circumstances by which the so-called three-layer tape was developed.

[0004] however, the tape which a wearer should remove if it does not have full knowledge of the usage when using a three-layer tape -- incorrect \*\*\*\* -- there are many things and also there is a fault with it difficult [ to maintain the balance of the adhesive strength between binder layers ].

[0005] Then, it has a large area in the backseat front face of the venter of a disposable diaper, the front seat attached firmly free [ exfoliation of the tape fastener which has a binder ] is fixed, a tape fastener is attached firmly to this front seat, and the thing of the structure made possible [ readjusting an attaching position ] is used widely.

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EFFECT OF THE INVENTION

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[Effect of the Invention] Although a surface fastener is firmly fixed to a disposable diaper, while being able to do according to this invention the above passage, in a product condition, it can tacking carry out of the extension part of a zipper tape easily.

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[Translation done.]

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TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] Although the thing of the structure which attached firmly the tape fastener which has a binder to a front seat has the advantage which can adjust the attaching position of a tape fastener, after once removing after wear and checking the existence of urination, when it fixes to a front seat, the firm attachment reinforcement of a binder falls again. Furthermore, originally, in order to depend on the bond strength by the binder, in the disposable diaper for the adult who has a large area, it becomes insufficient [ reinforcement ], and is easy to produce peeling.

[0007] If this point and a surface fastener are used, even if large engagement reinforcement will be obtained and it will repeat attachment and detachment, there is no fall of engagement reinforcement.

[0008] Therefore, the technical problem of this invention is in a product condition to acquire the structure which carries out [ tacking ] of the field zipper tape easily while fixing a field zipper tape firmly to a disposable diaper.

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[Translation done.]

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## MEANS

[Means for Solving the Problem] Invention according to claim 1 which solved the above-mentioned technical problem with the hook element of the surface fastener formed in the both-sides section of a disposable diaper backside, and the hook receptacle element of the surface fastener formed in the venter Said both-sides section is constituted by a rear-face configuration sheet and the surface configuration sheet in the disposable diaper made into the fixed means at the time of wearing to a wearer. On one configuration sheet front face of said rear-face configuration sheet and the surface configuration sheets, or between said rear-face configuration sheet and a surface configuration sheet Jut out of the side edge over the method of outside, and fix the main tape member, and a subtape member is prepared in the state of both-ends immobilization between the front-face side of the configuration sheet of another side, and the inside side of said main tape member over the side edge. The hook element of said surface fastener is fixed to a part for the inside flank of said main tape member. This hook element In the condition of having the relation in which the hook receptacle element of the surface fastener formed in said venter at the time of wearing of a disposable diaper and engaging and releasing are free, and having folded up said main tape member at the time of un-equipping inside the product It is the disposable diaper which has the surface fastener characterized by what is being engaged with the surface sheet of a disposable diaper free [ exfoliation ] in the location exceeding a part or the whole of said subtape member.

[0010] Invention according to claim 2 with the hook element of the surface fastener formed in the both-sides section of a disposable diaper backside, and the hook receptacle element of the surface fastener formed in the venter Said both-sides section is constituted by a rear-face configuration sheet and the surface configuration sheet in the disposable diaper made into the fixed means at the time of wearing to a wearer. On the front face of said rear-face configuration sheet or between said rear-face configuration sheet and a surface configuration sheet Jut out of the side edge over the method of outside, and fix the main tape member, and a subtape member is prepared in the state of both-ends immobilization between the inside sides of said main tape member ranging over the front face and side edge of said surface configuration sheet. The hook element of said surface fastener is fixed to a part for the inside flank in which the subtape member of said main tape member does not exist. This hook element In the condition of having the relation in which the hook receptacle element of the surface fastener formed in said venter at the time of wearing of a disposable diaper and engaging and releasing are free, and having folded up said main tape member at the time of un-equipping inside the product It is the disposable diaper which has the surface fastener characterized by what is being engaged with the surface sheet of a disposable diaper free [ exfoliation ] in the location exceeding a part or the whole of said subtape member.

[0011] It is the disposable diaper which has the surface fastener according to claim 1 or 2 which the barrier sheet which has the barrier cuffs which has an elastic [ said disposable diaper is prolonged in the both-sides section by invention according to claim 3 at a longitudinal direction, and an inside part is made to expand and contract in a longitudinal direction ] flexible member, and stands up from a disposable diaper front face at the time of use, and constitutes these barrier cuffs exists as said surface sheet, and is being engaged free [ exfoliation of said hook element ] to this barrier sheet.

[0012] If a configuration explains with invention according to claim 2 materialized more here Jut over

the front face of a rear-face configuration out of the side edge at the method of outside, and the main tape member is fixed. And a subtape member is prepared in the state of both-ends immobilization between the front-face side of a surface configuration sheet, and the inside side of the main tape member over the side edge. Since the hook element of said surface fastener is fixed to a part for the inside flank in which the subtape member of the main tape member does not exist. The tensile force which acts on the main tape member in case it is engaged to the hook receptacle element of the surface fastener which prepared the hook element in the venter. Since it acts on the base of the main tape member, and the base of a subtape member and these distribute and act on the corresponding point of a rear-face configuration sheet and a surface configuration sheet, and the outskirts of it, respectively. As a result, the main tape member and a subtape member are fixed, without producing peeling firmly in the flank of a disposable diaper.

[0013] In addition, the part jutted out over the method of outside is said to below also as an "extension part" from the side edge of a disposable diaper of the main tape member containing a hook element, and a subtape member.

[0014] On the other hand, said main tape member at the time of un-equipping is set in the condition of having folded up inside the product. It sets in the location exceeding a part or the whole of said subtape member, and is a surface sheet (it is said rear-face configuration sheet, and also). claim 3 or the barrier sheet mentioned later -- you may be -- usually. Since it is engaging with the surface sheet which consists of a nonwoven fabric free [ exfoliation ] using the property in which the front face is a fiber. Without keeping the main tape member containing a hook element \*\*\*\*\*ed from the side edge of a disposable diaper separately, where an "extension part" is folded up inside a product, it can offer as a product, and it excels in the appearance of a product.

[0015] furthermore, the same consumer as the tape fastener which has the conventional binder is becoming tame, and it is \*\*\*\* -- it once has the use gestalt which carries in and attaches an "extension part" firmly to the venter of a disposable diaper gestalt [ use ], i.e., after exfoliating from the inside of a product and developing to the method of outside, and there is also an advantage which can perform wearing without sense of incongruity.

[0016] even if, as for the "hook element" and the "hook carrier element" which are said to this invention, the hook is not a reverse RE character -- the shape of a mushroom etc. -- you may be -- moreover, a hook carrier -- the shape of a loop formation -- it is not -- for example, -- reverse -- what is necessary is just to become entangled with nothing and a hook about configurations, such as J etc. characters. What is necessary is to be able to detach [ just / in short, ] like adhesives and attach freely mechanically by tangle, removing chemical association (what is generally called a surface fastener). (exfoliation)

[0017]

[Embodiment of the Invention] It explains in full detail further, referring to the gestalt of the operation which shows this invention below to a drawing.

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EXAMPLE

(The 1st example) Figs. 1 - 4 are what showed the 1st example, and the body of a disposable diaper is using as the basic component the liquid permeability top sheet 1 which consists of a nonwoven fabric by the side of a front face (field equivalent to the skin) etc., the non-liquid-permeable nature backseat 2 which consists of a polyethylene sheet on the back etc., and the absorber 3 which consists of curdy pulp which left the perimeter part as the flap section and intervened among them. An absorber 3 is adjoined and 1 or two or more elastic flexible member 4A is prepared in the circumference part of a foot as occasion demands. Elastic flexible member 4B for order leakage prevention is prepared in an order edge as occasion demands.

[0019] Although this kind of body of a disposable diaper is well-known, in this invention, the hook receptacle sheet (slag carrier sheet) 5 with which much loop-formation 5a projects on the external surface of Abdomen S at base material 5b and which constitutes the hook receptacle element of this invention is being fixed to the non-liquid-permeable nature sheet 2 by adhesives or suture.

[0020] On the other hand, in the 1st example, Back B is constituted by the backseat 2 and the top sheet 1, and \*\*\*\*\* constitutes the rear-face configuration sheet and surface configuration sheet of this invention, respectively. It juts over the front face of a backseat 2 out of the side edge at the method of outside, and binder layer 6A is fixed and the subtape member 7 is formed [ the main tape member 6 ] for both ends by binder layer 7A in the state of immobilization between the front-face side of the top sheet 1, and the inside side of the main tape member 6 over the side edge.

[0021] The hook sheet 8 which constitutes the hook element of a surface fastener is being fixed to a part for the inside flank in which the subtape member 7 of said main tape member 6 does not exist by for example, binder layer 8A. The hook sheet 8 implants much piece of hook 8a in base material 8b, and piece of hook 8a has the relation in which said loop-formation 5a and engaging and releasing are free. Moreover, preferably, by preparing inside from the tip of the main tape member 6, the hook sheet 8 pinches a point and has left it as the section.

[0022] On the other hand, it consider as the condition of having fold up the main tape member 6 inside the product at the time of un-equip, and be engage with the fiber of the top sheet 1 as for which the hook sheet 8 consist of a nonwoven fabric in the location exceeding the subtape member 7 whole in that case as be show at a part of subtape member 7 or drawing 5 in the condition of having been involved free [ exfoliation ] as show in drawing 4.

[0023] After the main tape member 6 which has the hook sheet 8, and the subtape member 7 are attached in the body of a disposable diaper in this disposable diaper, as shown in drawing 4 The main tape member 6 is made into the condition of having folded up inside the disposable diaper, the hook sheet 8 is twined around the fiber of the top sheet 1 which consists of a nonwoven fabric in the location exceeding a part of subtape member 7, and it is engaged, and a production process is advanced further and shipped after making a load.

[0024] At the time of wearing of a disposable diaper, the tip of the main tape member 6 is gathered, the hook sheet 8 is exfoliated from the top sheet 1, the extension part is carried into Venter S, and the hook sheet 8 is piled up on the hook receptacle sheet 5. Association before and behind a disposable diaper is

made for each piece of hook 8a by this superposition involving each loop-formation 5a.

[0025] What is necessary is to remove the extension section of the hook sheet 8 from the hook receptacle sheet 5, and just to recombine it on the occasion of the check of the existence of urination, or redo of wearing.

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[Translation done.]



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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the wearing condition perspective view of a disposable diaper.

[Drawing 2] It is the development view of a product.

[Drawing 3] It is an important section cross-sectional view in the condition of having removed the zipper tape.

[Drawing 4] It is an important section cross-sectional view in the condition of having tacking carried out of the zipper tape.

[Drawing 5] It is an important section cross-sectional view in the condition of having removed the zipper tape of other examples.

[Drawing 6] It is the development view of the product in the 2nd example.

[Drawing 7] It is an important section cross-sectional view in the condition of having tacking carried out of the zipper tape in the 2nd example.

[Drawing 8] It is an important section cross-sectional view in the condition of having tacking carried out of the zipper tape in the modification of the 2nd example.

[Drawing 9] It is an important section cross-sectional view in the condition of having removed the zipper tape in the 3rd example.

[Drawing 10] It is an important section cross-sectional view in the condition of having removed the zipper tape in the 4th example.

[Description of Notations]

1 [ -- A hook receptacle sheet, 6 / -- A main tape member, 7 / -- A subtape member, 8 / -- Hook sheet. ] -  
- A top sheet, 2 -- A backseat, 3 -- An absorber, 5

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[Translation done.]

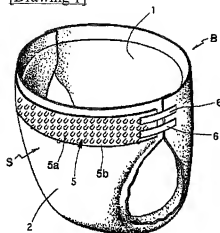
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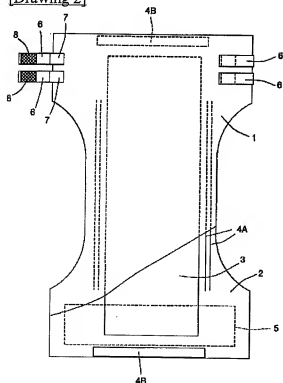
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## DRAWINGS

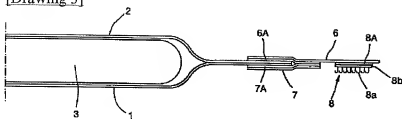
[Drawing 1]



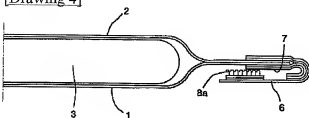
[Drawing 2]



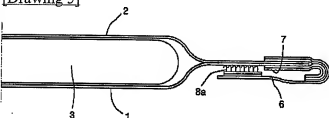
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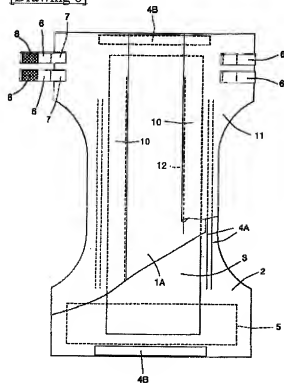
[Drawing 4]



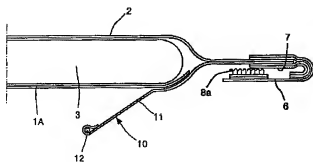
[Drawing 5]



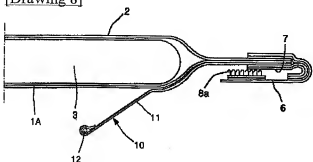
[Drawing 6]



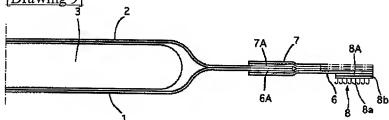
[Drawing 7]



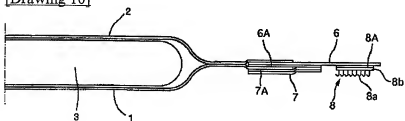
[Drawing 8]



[Drawing 9]



[Drawing 10]



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## CORRECTION OR AMENDMENT

[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law  
 [Section partition] The 2nd partition of the 1st section  
 [Publication date] November 6, Heisei 13 (2001. 11.6)

[Publication No.] JP,10-234779,A  
 [Date of Publication] September 8, Heisei 10 (1998. 9.8)  
 [Annual volume number] Open patent official report 10-2348  
 [Application number] Japanese Patent Application No. 9-38069  
 [The 7th edition of International Patent Classification]

A61F 13/56  
 5/44

[FI]

A41B	13/02	H
A61F	5/44	H

[Procedure revision]  
 [Filing Date] April 17, Heisei 13 (2001. 4.17)  
 [Procedure amendment 1]  
 [Document to be Amended] Specification  
 [Item(s) to be Amended] 0028  
 [Method of Amendment] Modification  
 [Proposed Amendment]  
 [0028] As shown in drawing 8, the polymerization of the barrier sheet 11 can be carried out to top sheet 1A.  
 [Procedure amendment 2]  
 [Document to be Amended] Specification  
 [Item(s) to be Amended] 0032  
 [Method of Amendment] Modification  
 [Proposed Amendment]  
 [0032] (Other examples) In the above-mentioned example, although the hook sheet 8 was fixed to the main tape member 6 in binder layer 8A, base material 8b of the hook sheet 8 can also be fixed to the main tape member 6 by heat joining etc., without being based on binder layer 8A.

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[Proposed Amendment]

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[Proposed Amendment]

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